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CONTRIBUTIONS IN SCIENCE



NATURAL HISTORY MUSEUM • LOS ANGELES COUNTY

TWO ANT GENERA NEW TO THE UNITED STATES (Hymenoptera: Formicidae)¹

By ROY R. SNELLING²

ABSTRACT: The two genera *Rogeria* (Myrmicinae) and *Acropyga* (Formicinae) are recorded from the United States. *Rogeria* is represented by two new species: *R. creightoni* in Texas and *R. huachucana* in Arizona. Also present in Arizona is the new species *Acropyga epedana*. These records are believed to be natural northern termini of the ranges of these genera, rather than accidental introductions. The types of the new species are deposited in the Natural History Museum of Los Angeles County.

In this paper the myrmicine genus *Rogeria* and the formicine genus *Acropyga* are recorded for the first time from the United States. Two species of *Rogeria*, one in Texas and one in Arizona, and one species of *Acropyga* in Arizona are described below as new species. Neither of these generic additions would seem to be the result of introduction within historical times; this seems especially true of the two Arizona species. Both are found at the southern end of the Huachuca Mountains where introduction is not likely. Further, this area is known to be the northern terminus for many Mexican species of Neotropical affinities. The Texas species may be the result of an introduction but, if so, I have been unable to correlate it with any previously described species. More probably this, too, is a largely Mexican species distributed along the tropical east coast of Mexico, with its northern terminus in the lower Rio Grande Valley, a well-known distribution pattern.

Genus *ROGERIA* Emery

The genus *Rogeria* consists of two dozen poorly known species, all Neotropical. Most of these species have been described within the past 50 years, from one or a few specimens. The small size and cryptic habits of these ants have mitigated against the accumulation of large series in collections. The taxonomy of the genus is confused, and only in recent years has it consisted of more than the bare descriptions of isolated new species. The works of Kempf (1961, 1962, 1963, 1964, 1965) have greatly assisted in understanding this genus. Until the present paper, the northernmost species were recorded from Honduras on the mainland, but several are known from Cuba. In addition, there are at least two undescribed species in Mexico which I have seen.

Among the ant genera recorded from the United States, *Rogeria* may be recognized by the following combination of worker characteristics: Myrmicinae; worker monomorphic; antennae twelve-segmented, the last three forming a

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robust club longer than the remainder of the flagellum; tibiae II and III without apical spurs; propodeum armed; thoracic dorsum without defined sutures and distinctly convex in profile; anterior peduncle of petiole well defined from node or not.

Of the genera previously recorded from the United States, *Macromischa* is most closely related to *Rogeria*. Curiously, *Macromischa*, also of Neotropical origin, is represented in this country by one species in southern Texas and one in southern Arizona, as is true of *Rogeria*. *Rogeria* may be separated from *Macromischa* by the larger antennal club (shorter than remainder of flagellum in *Macromischa*), much smaller eyes (more than 50 facets in *Macromischa*), presence of an antero-inferior pronotal angle, strongly sculptured head and thorax, smaller size and terricolous habitat (*Macromischa* is arboreal).

***Rogeria creightoni*, new species**

Figure 1

DIAGNOSIS. Eyes small, composed of 8-12 pigmented facets; head and thorax coarsely reticulate; pronotum abruptly descending from mesonotum and separated from it by transverse carinula; propodeum with transverse welt basally; petiolar peduncle subopaque, reticulo-punctate ventrally, without ventral crest but with distinct anterior tooth.

WORKER (Holotype). Measurements: HL 0.61; HW 0.55; SL 0.41; PW 0.40; WL 0.68; TL 2.43 mm.

Head as shown in figure 1, CI 90. Mandibles smooth and shiny, with scattered fine piligerous punctures; cutting margin quinquedentate, apical tooth longest, remaining teeth sharply triangular. Median lobe of clypeus elevated, narrow, without median carinula but with sharp lateral carinulae, sharply truncate and perpendicular anteriorly in profile; lateral lobes with several costae. Frontal lobes moderately expanded, covering antennal insertions, maximum width about $\frac{1}{3}$ HW. Scape short, ending well below occipital margin, SI 75. Flagellum 11-segmented, the three-segmented club much longer than remainder of flagellum, median segments clearly broader than long. Eyes small, consisting of 8-12 facets, removed from mandibular insertion by about 1.2 times their maximum diameter. Front and sides of head with fine, sharp, widely spaced longitudinal rugulae, forming reticula on occiput and genae; interspaces smooth and shiny; gula shiny, with sparse oblique rugulae.

Thorax as shown in figure 1. Promesonotum with sharp humeral angles, and separated from pronotal neck by a coarse, irregular rugule; dorsum rugoso-reticulate, interspaces smooth and shiny; sides shiny, with coarse, irregular rugulae; pronotal collar irregularly finely rugulose, interspaces densely punctate and dull; inferior pronotal angle defined but neither acute nor subdentate; lower pronotal margin transparent and slightly reflexed. Meso- and metapleurae shiny, coarsely and irregularly longitudinally rugulose. Propodeal dorsum strongly sloping, basally with distinct transverse welt, coarsely reticulate basally, transversely rugulose between bases of spines, posterior face nearly vertical,

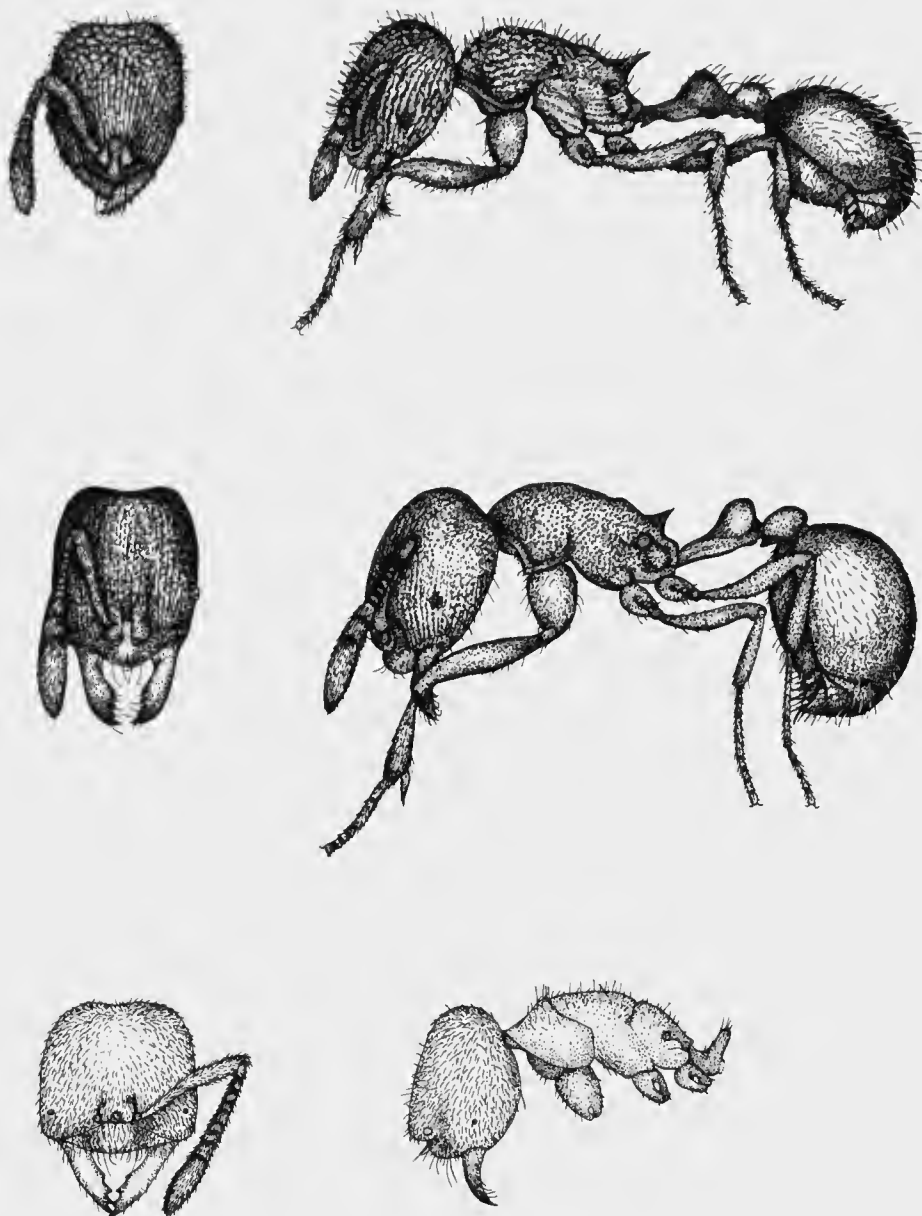


FIGURE 1. *Upper: Rogeria creightoni*, worker, frontal view of head, lateral view of head, thorax and abdomen. *Middle: R. huachucana*, frontal view of head, lateral view of head, thorax and abdomen. *Lower: Acropyga epedana*, worker, frontal view of head, lateral view of head, thorax and petiole, outline of petiole in posterior view (pubescence omitted). Figures by Ruth Ann DeNicola.

smooth and shiny; spines about twice as long as their width at base, longer than distance between them. Tibiae II and III without evident apical spurs.

Petiolar and postpetiolar profiles as in figure 1. Petiole distinctly pedunculate, anterior peduncle longer than height of node, laterally marginate; peduncle closely punctate, slightly shiny; node slightly shiny, densely punctate and obscurely transversely rugulose anteriorly, shinier, more coarsely, longitudinally rugulose posteriorly; dull, closely punctate laterally and ventrally, with low longitudinal carina, ending anteriorly in a low, oblique, flattened tooth. Post petiole, from above, a little broader than long, node smooth and shiny, with sparse fine piligerous punctures. Gaster smooth and shiny, with sparse fine piligerous punctures.

Body and appendages with numerous well-spaced fully erect coarse hairs; head and gaster, in addition, with numerous finer, shorter appressed to suberect hairs.

Color ferruginous, head and gaster a little darker.

TYPE MATERIAL. Holotype and one paratype worker: La Feria, Cameron County, TEXAS, 16 Feb. 1971 (W.S. Creighton). Holotype in LACM, paratype in collection of W. S. Creighton.

VARIATION. The paratype is nearly identical to the holotype, with the following measurements: HL 0.61; HW 0.53; SL 0.41; PW 0.38; WL 0.63; TL 2.34 mm; CI 87; SI 77.

DISCUSSION. The type specimens were taken from the yard of the Creighton residence in a now highly disturbed habitat, once mesquite-acacia savannah.

This species is not closely allied to the following. Among the Caribbean species, it is evidently most like *R. scabra* Weber from Cuba, especially in details of petiolar and postpetiolar sculpturation. It differs from *R. scabra* in the more declivitous pronotum, broader propodeal spines and the smooth and shiny posterior face of the propodeum. In Kempf's key (1963) to the South American species it goes to the vicinity of *R. pellecta* Kempf, but differs by the longer spines, distinct humeral angles and many other characters. The well-defined petiolar node will serve to separate this ant from the *Irogera* series of species.

ETYMOLOGY. This species is dedicated to my friend and colleague, William S. Creighton, who generously turned his specimens over to me and permitted deposition of the type in the LACM.

***Rogeria huachucana*, new species**

Figure 1

DIAGNOSIS. Small species; body compact; eyes minute, with about four facets in greatest diameter; no erect hairs present on cephalic and thoracic dorsa; cephalic rugulae fine and obscure; thoracic dorsum without evident rugulae; epinotal spine short, dentiform.

WORKER (Holotype), Measurements: HL 0.60; HW 0.50; SL 0.40; PW 0.35; WL 0.65; TL 2.33 mm.

Head as shown in figure 1, CI 83. Mandibles smooth and shiny, with scattered fine piligerous punctures; cutting margin quinquedentate, apical tooth largest, remaining teeth low, basal tooth a little smaller. Median lobe of clypeus elevated, narrow, with fine median carinula, strongly truncate anteriorly, perpendicular; lateral borders very weakly carinulate; lateral lobes without costae. Frontal lobes moderately expanded, covering antennal insertions, maximum width about $1/3$ HW. Antennal scape short, ending well below occipital margin, SI 80. Flagellum 11-segmented, the three-segmented apical club much longer than remainder of flagellum, median segments about twice broader than long. Eyes minute, consisting of about eight facets, removed from mandibular insertion by twice their maximum length. Front and sides of head with low, fine, irregular rugulae, spaces between rugulae equal to, or exceeding, width of rugulae; interspaces roughened and with scattered shallow punctures; occiput with a few obscure, basically transverse rugulae in middle; gula with a few coarser, transverse rugulae, shinier than front.

Thorax as shown in figure 1. Promesonotum without humeral angles, gently convex in both directions, inferior pronotal angle subdentate; surface with very fine, low widely spaced rugulae, interspaces roughened and slightly shiny, with scattered fine, obscure punctures, anterior face and neck of pronotum arugulose, closely punctate. Meso- and metapleura arugulose, finely and densely punctate. Propodeum, above lateral teeth, mostly sloping, but with narrow transverse basal area, abruptly sloping toward petiolar insertion below teeth; basal area densely punctate, without rugulae, sloping area with fine transverse rugulae, surface shinier than that of basal area; lateral teeth short, triangular, shorter than their basal width, separated by about two times their length. Legs shiny, finely and superficially punctate; tibiae II and III without evident apical spurs.

Petiolar and postpetiolar profiles as in figure 1. Petiole distinctly pedunculate; anterior peduncle a little longer than height of node, closely and finely punctate above, laterally marginate, sides and venter shiny, sparsely and finely punctate; venter with short longitudinal carina, ending anteriorly in a short tooth; node shiny, finely and sparsely punctate. Postpetiole a little broader than long, shiny, finely and sparsely punctate. Gaster smooth and shiny, with sparse fine piligerous punctures.

Front and occiput of head, thoracic dorsum, petiole, postpetiole and first gastric segment with scattered fine appressed hairs. Clypeus with about six long erect hairs on disc; mandibles with a few short erect hairs; gula with about three short erect hairs on each side; coxae with a number of erect hairs; gastric segments beyond first with scattered long erect hairs.

Color yellowish ferruginous, head a little darker, legs a little lighter.

TYPE MATERIAL. Holotype and two paratype workers: 8.1 mi. SE of Sunnyside, elev. 5950 feet, Cochise County, ARIZONA, 22 Aug. 1971 (R. R. Snelling, No. 71-41); 1 paratype worker, Huachuca Mts., Cochise Co., ARIZONA, elev. 5850-5900 feet, T24S, R20E, sec. 4, 2 Sept. 1972 (R. R. Snelling, No.

72-58). Holotype and two paratypes in LACM, one paratype in collection of W. S. Creighton.

VARIATION. The four specimens are so very similar in size that there is nearly no evident variation. The following measurements exhibit the slight ranges presently known: HL 0.60-0.63; HW 0.50-0.53; SL 0.40; PW 0.35-0.36; WL 0.53-0.66; TL 2.27-2.33 mm; CI 83-85; SI 75-80.

DISCUSSION. The 1971 series was taken from beneath a large, deeply imbedded stone on a south-facing slope at the southern end of the Huachuca Mountains, in oak-juniper woodland. The single 1972 specimen was taken in a similar area, beneath a small stone which also concealed a colony of *Crematogaster browni* Buren.

This species may be readily separated from the few known North American species by its small size, reduced eyes and lack of erect hairs on much of the body. It appears, to judge from the description, to be most like *R. bruchi* Santshi of Argentina, to which it will run in Kempf's key to the South American species (1963).

ETYMOLOGY. Named for the Huachuca Mountains of southern Arizona whence the types were collected.

Genus *ACROPYGA* Roger

Ants of the genus *Acropyga* are small to minute, yellowish species which, in the field may be confused with *Brachymyrmex*, another genus of formicines of similar habits. Among the known genera of ants in the conterminous United States, *Acropyga* may be recognized by the following combination of characters: Formicinae; antennae 10-segmented (8-11 in exotic species); eyes lateral, small to minute, situated closer to mandibular articulation than occiput; ocelli absent; posterior clypeal margin contiguous with rim of antennal socket; mandibles slender, quadri- or tridentate, cutting margin oblique, often continuous with basal margin; maxillary palpi two-segmented; labial palpi three-segmented; promesonotal and metanotal sutures present; propodeum oblique; petiole high, compressed.

According to the most recent treatment of the New World species Weber (1944) there are twenty-nine nominate forms in the Neotropical Region. Other species in the Ethiopian and Australasian Regions are assigned to *Acropyga*. A total of four subgenera (*Acropyga* s. str., *Atopodon*, *Malacomyrma* and *Rhizomyrma*) have been named, of which only *Rhizomyrma* has been recorded from the New World. The subgenera are purportedly distinguished from one another by mandibular characters (shape and dentition) and the number of antennal segments. However, the entire range of characters is covered by the New World *Rhizomyrma*. Because I have not had the opportunity to examine material of the Old World species in sufficient detail, no formal synonymy is proposed at this time, even though I have no faith in the validity of any of these subgeneric names as they currently are characterized.

The species of *Acropyga* are largely, if not entirely, subterranean in their

habits and collections are usually from Berlese samples. Several of the Neotropical species are of agricultural importance, because they tend to disperse coccids which feed on the roots of coffee plants. According to Weber (1944) the association is a true symbiotic one. He opined that the New World species may all be obligate coccidophiles. For a fuller discussion of the relationship of *Acropyga* to coccids see Weber's paper.

***Acropyga epedana*, new species**

Figure 1

DIAGNOSIS. Mandible slender, cutting margin oblique and quadridentate; eye minute, consisting of one or two facets; antennae 10-segmented, scape surpassing occipital margin, terminal segment longer than preceding four segments; pubescence and hairs abundant on all body surfaces.

WORKER (Holotype), Measurements: HL 0.50; HW 0.50; SL 0.37; PW 0.03; WL 0.53; TL 1.75 mm.

Head, in frontal view, as wide as long, CI 100; widest at about eye level, sides nearly straight; occiput slightly concave in middle; in lateral view, thickest above eye level, occiput compressed, eyes at lower one-fourth of side. Mandibles slender, cutting margin strongly oblique, with three large triangular teeth and a minute tooth at basal angle. Apical margin of clypeus evenly slightly convex; clypeus in profile with apical third abruptly sloping to margin. Scape reaching a little beyond occipital margin, SI 74; median flagellar segments distinctly broader than long, apical segment large, longer than preceding four segments combined.

Thorax short and robust, PW 0.67 x WL. Pronotal face declivitous; mesometanotum flattened, evenly curved from pronotum to propodeum. Propodeum entirely oblique, without distinct basal face, surface flat. Legs stout; tarsal segments flattened.

Petiolar scale, in profile, compressed, fully erect, crest thin; in frontal view, crest very slightly concave.

Integument smooth and shiny on head and thorax; head with abundant setigerous punctures; coarser and more conspicuous on lower half; gaster shiny, integument roughened and with obscure coarse piligerous punctures.

Head with abundant appressed and subappressed short, coarse pubescence on sides and beneath; front and occiput with much pubescence fully erect; with scattered long erect hairs, numerous on clypeus. Thorax and propodeum with sparse subappressed to fully erect coarse pubescence and scattered long, erect coarse hairs. Gaster with abundant pubescence, subappressed to erect on tergites, more closely appressed laterally, appressed on venter; with numerous long, fully erect hairs. Scape pubescence abundant, reclinate to suberect, coarse. Legs similar, coarse hairs abundant on tibiae; tarsal segments with coarse setalike hairs and a coarse seta on apical corners of segments.

Color uniformly brownish yellow, mandibles transparent, cutting margin piceous.

FEMALE. Unknown.

MALE. Unknown.

TYPE MATERIAL. Holotype and three paratypes, 3.1 mi. W of summit of Montezuma Pass, 5800 ft. elev., Huachuca Mts., Cochise Co., ARIZONA, 14-VIII-1969 (R. R. Snelling, No. 69-307), all deposited in LACM.

DISCUSSION. The type specimens were under a stone also concealing a colony of *Paratrechina* sp., in an area of oak-juniper woodland. The species is probably wholly hypogaecic.

In the key by Weber (1944) *A. epedana* will run to *A. mesonotalis* Weber from Haiti. The mesonotum of that species is distinctly elevated and differentiated from the remainder of the thorax in profile; in *A. epedana* the mesonotum is nearly flat and continuous with the metanotum in profile. Geographically, the nearest described species is *A. exsanguis* (Wheeler) based on three specimens from Jalapa, Mexico. That species has tridentate mandibles, 8-9 segmented antennae and lacks erect hairs over most of the body. The Honduran *A. wheeleri* Mann also has tridentate mandibles, shorter scapes which just attain the occipital margin, the antennae are nine-segmented with the last segment almost as long as the preceding three and the propodeum with a distinct basal face. The Panamanian species, *A. panamensis* Weber, has a distinctly transverse mandibular cutting margin, short scapes which do not attain the occipital margin and the head is longer than broad. In *A. goeldii* Forel, the remaining recorded Central American species, the eyes consist of several facets, the mesonotum is high and strongly arched and the propodeum has a distinct, though short, basal face.

ETYMOLOGY. Gr., *epedanos*, weak or feeble, so-called because of the thin, collapsible integument.

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